Available online at www.sciencedirect.com
ScienceDirect
Journal of Forensic and Legal Medicine 14 (2007) 515–516
JOURNAL OF FORENSIC AND LEGAL MEDICINE
www.elsevier.com/jflm

Alcimedes

A recent double blind, placebo-controlled study (*Addiction* 2007;**12**:183–9) examined the influence of blood alcohol concentration (BAC) of around 0.03% on neuropsychological function. The results showed that cognitive functions which rely on perception and processing of visual information are significantly impaired and that this was more evident with more complex and urgent tasks. The authors conclude that the ability to drive may be impaired at BACs as low as 0.03% because of incorrect perception and processing of visual information. They suggest it is a myth that driving performance at low BACs is better than at a BAC of zero. Cognitive performance such as verbal intelligence, functional capacity, memory, and vigilance in relation to optical stimuli remain uninfluenced.

An editorial in the *BMJ* (2007; 335: 3–4) provides advice for patients on dealing with acute chest pain and this advice could translate well for forensic physicians leaving instructions for custody staff who care for detainees. The authors recommend that, on the basis of the pharmacodynamics of sublingual nitrates and the benefits of early presentation, patients with known ischaemic heart disease or at high risk of myocardial infarction who develop acute chest pain should take two metered doses (800 μg) of GTN immediately. If the pain persists for 5 min an ambulance should be called.

Legislation that came into force in Sweden in 1999 aimed at combating driving under the influence of drugs (DUID) stipulated zero-concentrations in blood for scheduled substances. Since then the number of cases submitted by the police for toxicological analysis has increased more than 10-fold. Jones (*Addiction* 2007;**102**:1085–91) has reviewed those cases where the suspects were also examined by a physician. The physician performed a comprehensive history and examination, including simple psychomotor and cognitive tests of impairment, and concluded whether the suspects were not impaired, slightly, moderately or highly impaired by drugs other than alcohol. The author concluded that the lack of association between the degree of drug induced impairment and the concentration of amphetamine in blood speaks against the notion of introducing concentration *per se* limits or graded penalties depending on blood concentration of this stimulant and that zero-concentration limits are a much more pragmatic way to enforce DUID legislation. This is particularly so because the concentration–effect relationship does not follow the concentration-time course of the drug in blood. Some individuals will be unfit to drive due to the complete exhaustion that follows from lack of sleep after an amphetamine binge. As this may be several days after usage, the concentration of amphetamine in the blood will be fairly low compared with that seen immediately after administration.

A retrospective study of 545 patients reported to the California Poison Control System with ecstasy intoxication during a 5-year period identified 73 individuals with ecstasy-associated hyponatraemia (defined as a measured serum sodium level less than 130 mmol/L) (*Ann Emerg Med* 2007; 49: 164–71). Interestingly, there appeared to be a strong sex bias in the risk of developing hyponatraemia and hyponatraemia-associated adverse outcomes. Females were four times more likely to develop hyponatraemia (odds ratio [OR] 4.0; 95% confidence interval [CI] 2.1–7.6). Among women, those with hyponatraemia also demonstrated increased odds of coma (OR 3.9; 95% CI 1.2–12.9), whereas among men, no increased odds of hyponatraemia-associated coma were observed (OR 0.8; 95% CI 0.15–4.0). Although the authors accept that there were too many potential confounders in their study to conclude that gender has a direct effect on the incidence of ecstasy-associated hyponatraemia and its complications, this is clearly a subject worthy of further study.

The practice of forensic medicine exposes doctors to more than their fair share of the grotesque. One such example involved a 14-year old girl who was killed by a train on her way home from school. Her funeral was scheduled to take place three days later but, when the casket was opened to allow family members to see the body, it was empty. It seems that her corpse had been stolen from the local mortuary. Several weeks later the man responsible was arrested and evaluation of about 5000 digital images stored on his computer

doi:10.1016/j.jflm.2007.07.007

allowed an exact reconstruction of all his necrophilic acts. The first series of images showed the offender manipulating breasts and genitals and masturbating before opening the body with an incision extending from the throat to the pubic arch. The following images showed the stepwise removal of the internal organs and breasts and then about 800 further images were devoted to careful arrangements of body parts such as intestines, uterus or breasts on a plate with knife and fork as if ready to eat. During interrogation, the man confessed to two other similar offences. He was diagnosed as suffering from a severe personality disorder and genuine necrophilia (*Legal Medicine* 2007; 9: 143–6).

The prevalence of methamphetamine use in the UK is growing significantly. The drug is an illegal and addictive stimulant that can be made in home 'clandestine' laboratories from over-the-counter medications and household chemicals. Sulphuric acid, a component of some household cleaners, is one of the chemicals that can be used in its production. A case report describing two children who sustained severe caustic burns from sulphuric acid in homes where methamphetamine was being produced highlights the risk to children of living in a drug-endangered environment (*Ann Emerg Med* 2007; 49: 341–3). Toxicological examination of both children indicated exposure to methamphetamine, probably as a result of contamination of the household and its contents with drug residue. It is suggested that early identification of a child who has been living in a drug-endangered environment can help law enforcement and social service agencies protect the child from further harm.